

KNOWLEDGE AND PRACTICES OF NURSING STUDENTS ABOUT PRESSURE INJURY

CONHECIMENTOS E PRÁTICAS DE ESTUDANTES DE ENFERMAGEM ACERCA DA LESÃO POR PRESSÃO

CONOCIMIENTOS Y PRÁCTICAS DE ESTUDIANTES DE ENFERMERÍA SOBRE LA LESIÓN POR PRESIÓN

Gabryelle Nascimento de Jesus¹
Fernanda Araújo Valle Matheus²
Andrey Ferreira da Silva³
Júlia Renata Fernandes de Magalhães⁴
Selton Diniz dos Santos⁵
Thais Moreira Peixoto⁶
Ellen Hilda Souza de Alcântara Oliveira⁷

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Objective: to analyze the knowledge and practices of nursing students related to the prevention and treatment of pressure injuries. **Method:** qualitative, descriptive and exploratory study with 13 nursing students from a public university in the state of Bahia, most were between the seventh and ninth semesters, through semi-structured interviews. The analysis of the data occurred through Bardin's Content Analysis. **Results:** after the analysis, four categories emerged: Understanding the definition of pressure injury; Understanding measures to prevent pressure injury; Caring for patients with pressure injury; and Expressing feelings regarding the care of patients with pressure injury. **Final considerations:** there are gaps in the theoretical and practical training of students regarding the prevention and treatment of pressure injuries, requiring more robust educational strategies at graduation.

Descriptors: Primary Prevention. Students, Nursing. Pressure Ulcer. Nursing. Knowledge.

Objetivo: analisar os conhecimentos e as práticas de estudantes de Enfermagem relacionados à prevenção e tratamento da lesão por pressão. Método: estudo qualitativo, descritivo e exploratório, com 13 estudantes de enfermagem de uma

Corresponding Author: Fernanda Araújo Valle Matheus, nanmatheus@yahoo.com.br

Editor in Chief: Nadirleene Pereira Gomes

Associate Editor: Rosana Maria de Oliveira Silva

¹ Universidade Estadual de Feira de Santana. Feira de Santana, BA, Brazil. <https://orcid.org/0009-0005-6401-5855>.

² Universidade Estadual de Feira de Santana. Feira de Santana, BA, Brazil. <https://orcid.org/0000-0001-7501-6187>.

³ Universidade Federal de Alagoas. Campus Arapiraca. Arapiraca, AL, Brazil. <https://orcid.org/0000-0002-1038-7443>.

⁴ Universidade do Estado da Bahia. Campus XII. Guanambi, BA, Brazil. <https://orcid.org/0000-0003-0631-2374>.

⁵ Universidade Estadual de Feira de Santana. Feira de Santana, BA, Brazil. <https://orcid.org/0000-0002-3992-4353>.

⁶ Universidade Estadual de Feira de Santana. Feira de Santana, BA, Brazil. <https://orcid.org/0000-0001-5395-0905>.

⁷ Universidade do Estado da Bahia - DEDC. Senhor do Bonfim, BA, Brazil. <https://orcid.org/0000-0002-3042-8767>.

universidade pública no interior do estado da Bahia, grande parte estava entre o sétimo e nono semestres, por meio de entrevistas semiestruturadas. A análise dos dados ocorreu por através da Análise de Conteúdo de Bardin. Resultados: após a análise, emergiram quatro categorias: Compreendendo sobre a definição de Lesão por pressão; Entendendo as medidas de prevenção de lesão por pressão; Cuidando de pacientes com lesão por pressão; e Expressando sentimentos frente ao cuidado de pacientes com lesão por pressão. Considerações finais: existem lacunas na formação teórica e prática dos estudantes quanto à prevenção e tratamento das lesões por pressão, exigindo estratégias educativas mais robustas na graduação.

Descritores: Prevenção Primária. Estudantes de Enfermagem. Úlcera por Pressão. Enfermagem. Conhecimento.

Objetivo: analizar los conocimientos y las prácticas de estudiantes de enfermería relacionados con la prevención y el tratamiento de lesiones por presión. Método: estudio cualitativo, descriptivo y exploratorio, con 13 estudiantes de enfermería de una universidad pública en el interior del estado de Bahía, gran parte fue entre el séptimo y noveno semestres, por medio de entrevistas semiestruturadas. El análisis de los datos se llevó a cabo a través del Análisis de Contenido de Bardin. Resultados: después del análisis, surgieron cuatro categorías: Comprender la definición de Lesión por presión; Entender las medidas de prevención de lesiones por presión; Cuidar de pacientes con lesión por presión; y Expresar sentimientos frente al cuidado de pacientes con lesión por presión. Consideraciones finales: hay lagunas en la formación teórica y práctica de los estudiantes en cuanto a la prevención y tratamiento de las lesiones por presión, exigiendo estrategias educativas más robustas en la graduación.

Descriptores: Prevención Primaria. Estudiantes de Enfermería. Úlcera por Presión. Enfermería. Conocimiento.

Introduction

Pressure injuries (PI) are considered as one of the main causes of damage to patients related to health care. They represent a serious public health problem, both because of the high number of people with this condition and the numerous consequences related to it, which require long-term care and high costs for health services⁽¹⁻²⁾.

Understood as localized damage to the skin and/or underlying soft tissues, usually on a bone prominence or related to a medical device⁽¹⁾, pressure injuries cause pain and suffering for patients and relatives, increase hospitalization time, overload services, cause frustration for health professionals, as well as compromise patient safety and may lead to death⁽²⁾. They affect about 3 million adults per year in the United States⁽³⁾, costing hospitals between US\$ 9.1 and US\$ 11.6 billion annually⁽³⁾. Regarding the northeast of Brazil, local studies point to persistent challenges in the prevention and management of PI, considering that the curricular guidelines of Nursing courses in the region still need greater standardization and deepening in contents focused on patient safety and quality of care. In this sense, it is essential to consider the sociocultural and structural specificities

of the Bahian and northeastern context in the construction of more effective educational strategies that prepare students of a Bahian public university not only to recognize and treat PI, but also to act critically against regional inequalities that directly impact the practice of care⁽²⁾.

In Brazil, data released in 2020 show that there were 153,116 adverse events related to health care between May 2019 and April 2020, and that PI took second place, with a total of 29,356 reported cases⁽⁴⁾. Regarding the total expenses for treatment of PIs, a study conducted in a Brazilian hospital showed high costs according to stages of PI, ranging from 67.69 to 172.32 BRL for stage 2; 29.02 to 96.38 BRL for stage 3; 20.04 to 225.34 BRL for stage 4; and 16.41 to 260.18 BRL for the non-stadiable⁽⁴⁾.

Despite the figures presented, about 95% of pressure injuries can be avoided through effective prevention and treatment measures previously established⁽⁵⁾. For this, it is essential that the nursing team, because they work closer to the patient, have knowledge of methods, techniques and tools that enable the early identification of risk factors and the implementation of an individualized care plan⁽⁶⁾.

The professional qualification related to the prevention and treatment of pressure injuries, in turn, should be started at graduation, given that the alignment between theoretical practical in the training of nurses allows familiarization with the patient care process, favoring cognitive development, self-confidence in decision-making, critical thinking, teamwork, as well as developing psychomotor, affective and perceptual skills⁽⁷⁾. From this perspective, it is considered essential that the issue of pressure injuries be approached in a systematic way during the undergraduate in order to instrumentalize future professionals to properly manage the risks related to the development of PIs and minimize the damage already installed.

Based on the assumption that the direction of vocational training directly affects the quality of care, this study aims to analyze the knowledge and practices of nursing students related to the prevention and treatment of pressure injuries.

Method

The participants were 13 students who met the following inclusion criteria: have active enrollment and be studying from the third semester (because from this semester the student has the first contact with the wound theme) of the undergraduate course in Nursing. The choice of participants was made considering their strategic position in the PI prevention chain, as they will be the future health professionals who will work in prevention in hospitals, primary health care and home care. Having said this, students not enrolled and/or expelled for any other reasons. The approach with the participants of this research occurred through an online invitation, disseminated among students via institutional e-mail and instant communication application (WhatsApp). Those who accepted the invitation were guided in relation to the ethical precepts contained in Resolutions n. 466/12 and n. 510/2016 and signed the Informed Consent Form (ICF). It is important to highlight that the screen study was submitted to the Research Ethics Committee (REC) of the State University

of Feira de Santana, being approved under the Opinion number 6.731.948 and Certificate of Presentation of Ethical Appreciation (CAAE) n. 748990233000053. After contact and positive signaling, interviews were scheduled.

Data collection took place in the period from April to May 2024, through interviews, with a semi-structured script, containing questions related to the characterization of the research participants (sex, age, semester that is studying at the university, occupation) and the following guiding questions: What do you mean by pressure injury prevention? Have you had, inside or outside the university, other experiences related to caring for people with pressure injuries? What feelings arise in the care of people with pressure injuries? It is noteworthy that a pre-test was carried out with two students not included at the end of the sample, which allowed adjustments in the format and order of the questions, ensuring greater fluidity and understanding of the participants. To preserve the anonymity and confidentiality of the information, participants were identified by means of alphanumeric coding (ST1 ST2, ... ST13) in which ST corresponds to Student and numerals to the order of the interviews.

The interviews were recorded using two digital recorders, lasting an average of 30 minutes, in a private space within the university itself and conducted by the principal researcher. Subsequently, the content of the interviews was transcribed in full, validated by participants by e-mail and with a period of seven days for return and then submitted to analytical procedures. The theoretical saturation of the data was achieved as the interviews began to present recurrence of themes, without the emergence of new information relevant to the objectives of the research. This point marked the end of the collection, indicating that the number of participants was sufficient to cover the complexity of the phenomenon studied: the knowledge and practices of nursing students about pressure injury in the 13th student. The saturation was not only determined by the repetition of responses, but by the depth and consistency of the emerging analytical categories,

ensuring interpretative robustness and validity of the findings in the context investigated. In this study there was peer validation, involving other researchers from the University of Alagoas in the analysis and interpretation of data, contributing to minimize individual biases and ensure greater rigor to the built categories.

The systematization of the data was carried out through the Content Analysis, a categorical theme proposed by Bardin, in which it guides the organization of the content of the messages acquired in the text, allowing the emergence of categories⁽⁸⁾. Thus, after floating reading, exploration of the material and categorization of the data, four thematic categories emerged, namely: Understanding about the definition of PI, Understanding the measures to prevent PI, Caring for patients with PI and expressing feelings towards the care of patients with PI.

It is noteworthy that the grouping of categories occurred through the use of NVIVO12 qualitative analysis software, allowing greater exploration of data. The interpretation of the findings was anchored in the perspective of the National Pressure Ulcer Advisory Panel (NPUAP) and the European Pressure Ulcer Advisory Panel (EPUAP). The national and international scientific literature on the subject was also consulted, deepening the discussion about the findings.

Results

The category Understanding PI prevention measures presented higher frequency in the talks, followed by Caring for patients with PI, while the categories Expressing feelings about the care of patients with PI and Understanding about the definition of PI appeared more punctually, but with dense and meaningful content.

The interviewees were 13 students who, for the most part, declared themselves as brown/black (7/53%), with a relative age range between 21 and 29 years (10/77%), being mostly female (10/76.9%). In relation to the academic semester that the student was attending, much of it was between the seventh and ninth semesters (8/30.8%). In spite of the occupational status,

most declared themselves only as students (11/84.6%).

Understanding the definition of PI

The discourse of nursing students revealed that these comprise the general definitions applied to PI through the association between prolonged time of pressure, friction and shearing in bone prominences. Moreover, they stated that this condition, in turn, mainly affects patients with reduced mobility or with long hospital stay.

It is an injury caused by prolonged contact with bony prominences, generating pressure in these regions [...] mainly affecting bedridden patients. (ST9, 3rd semester).

It is an injury caused by pressure or friction on the skin, especially in areas with bony prominences, caused by prolonged contact with a surface or by constant friction. (ST7, 4th semester).

This type of injury compromises the structure of the skin [...] caused by pressure or shearing of a bony protrusion against a surface [...] generally affecting patients who have been confined to bed for a long time and have reduced mobility. (ST10, 7th semester)

Understanding PI prevention measures

The nursing academies mentioned, in their speeches, that the main measures of PI prevention are directly related to direct practices of nursing care. These are presented in changes of decubitus, stimulation to mobility, evaluation of nutritional status and perfusion, maintenance of skin hydration, as well as the use of technologies such as scales of prediction and pneumatic mattresses.

Prevention is primarily achieved by raising awareness among professionals about constant changes in position, encouraging passive mobility, and assessing nutritional status and perfusion. (ST4, 7th semester).

One of the preventive measures is the application of risk prediction scales, such as the Braden scale [...] Keeping the skin moisturized with creams is extremely important to prevent injuries [...] Furthermore, the use of "egg crate" mattresses combined with changes in position should also be practiced. (ST8, 9th semester).

I believe the most effective measure is changing the patient's position [...] Using a pneumatic mattress is also important, but it's not always available in the service. (ST11, 9th semester).

Caring for patients with PI

Regarding the care of patients with PI, nursing academies reported having provided assistance to people with this condition during dressing. They also stated that they have used advanced technologies, such as special coverings, under the direct supervision of the teachers. For this, permanent education was also signaled as care to be performed, both with patients and health professionals.

During my internship at the hospital, we treated some patients with pressure injuries [...] I even applied dressings under the guidance of my professor. (ST1, 4th semester).

I've applied dressings with special coverings and observed some colleagues changing the position of patients admitted to the hospital where I interned. (ST12, 5th semester).

When we were interning at the hospital, in addition to applying many dressings, we conducted several activities to raise awareness among professionals about the importance of position changes [...]. (ST4, 7th semester).

Expressing feelings regarding the care of patients with PI

When asked about the feelings regarding the care of patients with PI, nursing students reported feeling satisfaction and pleasure from the experience of caring for relatives who presented the injury. In addition, they highlighted the need for emotional preparation and respect for the person, as well as the feeling of having their practice respected, especially in the adoption of care directed to family members.

Caring for a patient with PI requires a great deal of emotional preparation from the professional. I've had a family member who was hospitalized and ended up developing this condition, so when I'm faced with this type of care, I always do my best. (ST5, 3rd semester).

I helped care for a family member who had COVID and developed PI. I had to help him adapt to returning home, providing care with love, affection, and respect. I felt happy and respected to be able to care for a family member, and I try to extend this care to the patients I see during my internship. (ST10, 7th semester).

Discussion

The narratives of nursing students reveal a pertinent knowledge about PI, addressing in

their speeches extrinsic factors such as pressure, friction and shear, as well as some multifactorial causes that lead to the emergence of the injury, example of impaired physical mobility and bed restriction. The current conceptualizations address that PI is a damage located in the skin as a result of distended compression in the soft parts, mainly between the bone prominences and a rigid surface, which hinders blood circulation, causing ischemia of the area⁽¹⁾. National and international authors discuss that pressure occurs when a perpendicular force is applied to the surface of the skin, on a bony prominence, compressing the tissues, as well as distorting or deforming the skin and soft tissues, leading to ischemia and, consequently, necrosis⁽³⁻⁹⁾.

In addition to the extrinsic factors mentioned by the students, there is the microclimate, an element that describes the conditions of temperature and humidity at a certain location at the interface between the body and the support surface^(1,10). This, in turn, was not mentioned by the nursing students, denoting their lack of knowledge regarding these elements, although some of them are at the end of the course. Despite the importance of considering microclimate as an extrinsic factor that increases the chances of developing PI, an international study shows that a 1.0 °C increase in skin temperature raises the effects of tissue ischemia in the sacral region from 7.72 to 14.33 times higher⁽¹¹⁾. Another international study points to an average increase of 1.8 °C in the skin temperature of the sacral region after applying pressure for two hours⁽¹²⁾. Given this, there is an urgent need to increase students' knowledge about the microclimate so that when nurses can prevent and manage PI⁽¹³⁾.

Although students demonstrate basic knowledge about the concepts of PI, they lack in their speeches injuries due to the use of medical devices for diagnostic and therapeutic purposes. A national study revealed that the sites most affected by pressure injury related to medical devices are the posterior cervical region and the nose, with the highest frequencies, respectively 66.0% and 40.0%⁽¹⁴⁾. In addition, international studies have identified 11 risk devices,

highlighting non-invasive ventilation masks and the orotracheal tube (OTT)⁽¹⁴⁾. It is noteworthy that the direct handling of these devices is performed by nursing professionals, responsible for the process of oxygen administration, as well as the development of care, such as cleaning and aspiration of the OTT, being essential knowledge not only in relation to oxygen therapy but also about PI to the detriment of devices.

The students' speech reveals that they have knowledge regarding pressure injury prevention strategies, expressed by awareness of professionals, position change every two hours, use of mattresses, skin hydration, nutrition and limb elevation. Despite this, there was no mention of other forms of prevention that can be used, such as regular risk assessment, maintenance of dry and clean skin and use of risk prediction scales. The preventive measures raised by NPUAP and EPUAP include: risk assessment regularly, with use of risk prediction scales; change position to relieve pressure on vulnerable areas of the skin; adequate support surfaces such as mattresses and pillows, that help distribute the pressure more evenly and reduce the points of excessive pressure; maintenance of clean, dry and hydrated skin; proper nutrition, education and training for patients, caregivers and health professionals on the risk factors^(1,10). Acquiring this knowledge during the vocational training process is a fundamental condition for the prevention of injuries, thus ensuring the quality of care provided⁽¹⁵⁾, it is essential that these are addressed during the undergraduate degree in the understanding of each of these strategies.

Although participants approach hydration as a preventive measure, the academic narrative does not express the need for regular skin assessment in order to maintain cleanliness and control excess sweat or other excretions such as urine. Among the practices denoted by the literature, it is emphasized that in patients with urinary incontinence who are using diapers, the maintenance of clean and dry skin is fundamental in the prevention of injuries. In this area, it is recommended to clean using products that have

adequate pH, associated with the application of skin protectors in the perianal area, as well as the maintenance of specific care aimed at people with impaired urinary elimination⁽¹⁶⁾. Given this scenario, the lack of knowledge about this type of care is worrying, considering that part of the emerging injuries in health services is based on the absence of care for excess moisture in the skin. An international study shows that the most prevalent moisture-related lesions are perilesional dermatitis, either on stomata or in the genital region, related to feces and urine effluents⁽¹⁷⁾.

The nursing academies participating in the study reveal, in their speeches, that the use of special equipment, such as pneumatic mattresses, can also be used to prevent PI. The use of this technology is indicated by the literature as effective, because they help in the distribution of pressure on areas of bone prominence, improving blood circulation and reducing the risk of ischemic lesions, reducing the risk of friction and shearing, as well as the length of patient hospitalization⁽¹⁸⁻¹⁹⁾. Despite the understanding by students about the importance of this instrument in prevention, they point out that it is not always available in health services, making it difficult to prevent injuries. An international study points out that the lack of materials in health services is a major problem for the treatment and consequent prevention of iatrogenesis⁽¹⁸⁾.

Although the evaluation of injuries by pressure mediated by risk prediction scales is an important clinical element in care, the discourse of nursing academics was limited, taking into account that they only demonstrated to know the Braden scale. It is important to highlight that knowledge about the Braden scale is fundamental since it is the most used in clinical practice and hospital protocols for evaluating the risk of developing pressure injuries⁽²⁰⁾. Despite this, other scales are mentioned in the national and international scientific literature as predictors of the risk of developing PI, such as the Norton scale, Waterloo, *Escala de Valoración Actual del Riesgo de desarrollar Úlceras por Presión en*

Cuidados Intensivos (EVARUCI) and the Risk Assessment Scale for the Development of Injuries Resulting from Surgical Positioning (ELPO)⁽²¹⁾. A national study revealed that the most widely used risk prediction scale is Braden, however, the Waterlow scale showed greater predictability and sensitivity compared to others⁽²¹⁾. Given these scenarios it is essential that, even in graduation, the academic knows these scales.

In addition to the measures directed to patients with a view to preventing PI, the awareness of professionals about the need to adopt the strategies mentioned above was present in the discourse of nursing academies. The process of raising awareness about PI prevention measures in health facilities is crucial for maintaining the quality of care provided to patients who are hospitalized⁽²²⁾. In this regard, the study confirms the need to adopt a training agenda and educational programs, carried out from the initial stages of vocational training, including practical training and simulations, to ensure a complete understanding of prevention and intervention methods⁽¹⁸⁾. In addition, it is crucial to emphasize the ethical and moral responsibility of health professionals in preventing preventable complications such as pressure injuries.

Concerning the care of patients with PI, students reported having provided care to hospitalized patients during the internship, including the performance of dressings with special coverings, under the supervision of the responsible teacher. Nursing professionals play a key role in both the prevention and treatment of PIs. Therefore, the development of this practical skill during training is in line with the National Curricular Guidelines for the Undergraduate Nursing Course⁽²²⁾, when it comes to the scope of generalist training of nurses.

The choice of appropriate dressing, based on the stage and location of the lesion, is crucial for successful treatment. It is essential to perform regular changes of dressings, to ensure the maintenance of a clean and favorable environment for healing, while protecting the skin around the wound to avoid further damage⁽¹⁴⁾. The choice of coverage is related to the characteristics of

the lesion, type of predominant tissue, amount and type of exudate, odor, signs of infection or colonization. It is important to point out that, in the training process, the teacher is responsible for the guidelines for conducting procedures together with the students.

The importance of the teacher in practical activities with nursing students is fundamental for the training of students. The teachers act not only as instructors, but also as professional references, offering technical guidance and emotional support during practical learning⁽²³⁾.

The supervision of professors ensures that students learn and practice correct and safe techniques for patient care. Direct supervision in clinical settings is essential for the development of practical skills and confidence. Therefore, supervised practical experience contributes significantly to professional competence and confidence, reinforcing the importance of a well-structured and supervised clinical learning environment⁽¹⁶⁾.

The students reported that the prescription of dressing is one of the main activities related to the care of patients with PI. The nurse has legal and ethical support to prescribe and/or apply nursing care, as recommended in Resolution n. 567/2018, which regulates the performance of the nursing team in the care of patients with wounds, including the use of products and wound coverings, as is the case of PI. It is important to note that a dressing is considered ideal when it protects the wound, is biocompatible and adequately moisturizes the skin. The condition of the patient's bed with PI and the function of each product determine what will be used⁽¹⁷⁾.

There is a diversity of products in the market that need to be selected according to the clinical judgment of the professional, in order to promote quality care, there is a need to individualize each case, such as transparent films, polyurethane foams, hydrofibers, Polyhexamethylene Biguanide (PHMB), activated carbon, use of silver-based antimicrobial coatings, iodine-based coatings, among others⁽²⁴⁾. Another important point was the practices of permanent education, which can play an important contribution to the

prevention and more effective management of PI through behavioral changes⁽²³⁾.

When dealing with feelings regarding the care of patients with PI, the academics reported feelings of pleasure, love, affection and respect for the person with injury, as well as the feeling of being happy and respected during the care of relatives in these conditions. Thus, it was possible to observe that the style of caring for relatives, imprint a concern, not only with the technical procedure, but reverses the consciousness of care humanized way, perpetuating this style also during the performance with patients in academic stages.

The practice of injury care technology, especially regarding treatment, goes far beyond the performance of a dressing or technical procedure. The performance of a dressing is not an automated task, but a reflexive one, lacking theoretical knowledge related to skin physiology, products and special coverings available on the market and standardized in the institution⁽²⁵⁾. Thus, caring for wounds involves contact with the physical body and the intimate and subjective space of the individual. Therefore, this technology of care goes beyond the clinical practice and cannot be performed only as a technical action of the student and/ or professional, because it involves a relationship of proximity, even temporary, between two human beings (the one who cares and the one being cared for).

The nursing students' narratives emerge for humanized care during the experience with relatives affected by PI, the search for attention and concern with the disease and the person, in addition to the technical procedure. Such experience reflects the learning of academics during classes on the subject in the academy and feedback as to the content that was taught by teachers during theoretical-practical disciplines, which tend to prepare them to perform their activities with technical competence, scientific, skill, awareness of the importance of technology in humanized care⁽²⁵⁾.

It should be noted that there were no negative feelings towards the care with PI expressed in

the narratives analyzed, however, it is known that the wound can be a consequence of a mark by violence, an irreparable loss or an incurable disease, that weakens the person and can lead to capacitism or deficit in self-care, requiring a sensitive and human look of students and/ or professionals, which goes beyond the domain of techniques.

It is noteworthy that the study presents relevant contributions to both academic training in nursing and care practice and management of care. By evidencing gaps and potentialities in the knowledge and practices of students about pressure injury, the results point to the need to strengthen the theoretical-practical teaching on this subject in the curricula of nursing courses, Promoting training more aligned to patient safety guidelines and quality of care. Moreover, the findings may support continuous training actions and raise awareness among managers and teachers about the importance of pedagogical strategies focused on clinical reality.

By investigating the knowledge and practices of Nursing students about pressure injuries, the research contributes to critical reflection on the quality of academic training and its articulation with safe and ethical care practice.

It should be noted, however, a limitations of this study concerns the presentation of a result that cannot be generalized, since it cannot be said that the entire population studied or that all nursing students from different locations have limitations in knowledge and practices.

Final Considerations:

The speeches revealed that nursing students had a limited knowledge about pressure injuries, especially in relation to risk factors and their management. Regarding the practices, there was a reduced experience of experiences related to the theme during the field stages.

The weaknesses demonstrated by the participants, mainly regarding the recognition of the causes of PIs, as well as the applicability of risk prediction scales, point to the need to think about educational strategies focused on meeting

the mentioned deficits during graduation. To promote greater professional preparation, it is considered that the approach of these contents should be done in a more comprehensive way, integrating specific educational programs from the initial semesters of training.

The implications of this study for education and health policies are significant, especially with regard to improving the practical training of future nurses. The findings highlight the need for greater emphasis on theoretical and practical teaching about pressure injuries in the curriculum of nursing courses, suggesting the inclusion of topics in subjects that address the theme or optional subjects on prevention, identification and treatment of these injuries. In addition, it is recommended to expand practical experiences in clinical settings that favor direct contact with patients at risk of PI, as well as the integration of protocols and updated guidelines in internship activities. Such measures will not only better qualify students for professional practice, but also contribute to reducing the incidence of PI in health services, aligning with patient safety policies and promoting quality of care. It is believed that practical training and realistic simulations can contribute to a more effective understanding of prevention and intervention methods. In addition, it is crucial to emphasize the ethical and moral responsibility of health professionals in preventing preventable complications, such as pressure injuries.

The results found can contribute for students and nursing teachers to broaden the vision on the existing gaps in knowledge and practices related to PIs and start looking for ways to fill them, which, in turn, may reflect on improving the quality of care offered to patients. To broaden the applicability of the study and strengthen its contributions, there should be future studies with a quantitative approach, capable of measuring the impact of educational interventions, as well as multicenter studies involving different higher education institutions, enabling the comparison between regional contexts and increasing the representativeness of the findings.

The prevention and proper management of PI are essential components of patient safety and require well-developed clinical skills, which should be strengthened from graduation. Thus, the results of the study offer relevant subsidies for the improvement of pedagogical and curricular strategies, in line with the objectives of the journal to promote the advancement of knowledge in the area of nursing with a focus on excellence in training and qualification of professional practices, as well as identifying gaps, proposing practical and objective actions that can be incorporated into the training process and health care management.

Collaborations:

1 – conception and planning of the project: Gabryelle Nascimento de Jesus, Fernanda Araújo Valle Matheus, Andrey Ferreira da Silva, Julia Renata Fernandes de Magalhães, Selton Diniz dos Santos, Thais Moreira Peixoto and Ellen Hilda Souza de Alcântara Oliveira;

2 – analysis and interpretation of data: Gabryelle Nascimento de Jesus, Fernanda Araújo Valle Matheus, Andrey Ferreira da Silva, Julia Renata Fernandes de Magalhães, Selton Diniz dos Santos, Thais Moreira Peixoto and Ellen Hilda Souza de Alcântara Oliveira;

3 – writing and/or critical review: Gabryelle Nascimento de Jesus, Fernanda Araújo Valle Matheus, Andrey Ferreira da Silva, Julia Renata Fernandes de Magalhães, Selton Diniz dos Santos, Thais Moreira Peixoto and Ellen Hilda Souza de Alcântara Oliveira;

4 – approval of the final version: Gabryelle Nascimento de Jesus, Fernanda Araújo Valle Matheus, Andrey Ferreira da Silva, Julia Renata Fernandes de Magalhães, Selton Diniz dos Santos, Thais Moreira Peixoto and Ellen Hilda Souza de Alcântara Oliveira.

Competing interests

No conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available in the article itself.

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